This listing of the claims replaces all prior versions and listings:

1. (currently amended): A method of generating an immune response in a subject, comprising:

~~mucosally administering to target cells of said subject~~ mucosal administration of a composition comprising a detoxified bacterial ADP-ribosylating toxin and a replication-defective gene delivery vehicle comprising a polynucleotide encoding at least one antigen~~, wherein said replication-defective gene delivery vehicle is administered mucosally according to a multiple dose schedule which comprises a first course of administration comprising multiple doses followed by a second course of administration~~.

2. (currently amended): The method of claim 1, wherein ~~one or more~~ the mucosal administration~~s are~~ is intranasal.

3. (currently amended): The method of claim 1, wherein ~~one or more~~ the mucosal administration~~s are~~ is intrarectal.

4. (currently amended): The method of claim 1, wherein ~~one or more~~ the mucosal administration~~s are~~ is intravaginal.

5. (currently amended): The method of claim 1, wherein at least one of said antigens is derived from a sexually transmitted pathogen.

6. (withdrawn): The method of claim 5, wherein the sexually transmitted pathogen is a bacteria.

7. (withdrawn): The method of claim 6, wherein the bacteria is selected from the group consisting of gonorrhea, chlamydia and syphilis.

8. (original): The method of claim 5, wherein the sexually transmitted pathogen is a virus.

9. (original): The method of claim 8, wherein the virus is selected from the group consisting of HIV, HBV, HSV, HCV and HPV.

10. (currently amended): The method of claim ~~9~~ 8, wherein the virus is HIV-l.

11. (original): The method of claim 1, wherein the gene delivery vehicle is selected from the group consisting of a nonviral vector, a viral vector, a particulate carrier and a liposome preparation.

12. (currently amended): The method of claim 11, wherein the gene delivery vehicle is a viral vector and the viral vector is selected from the group consisting of a retroviral vector, an adenoviral vector, a poxvirus vector, a picornavirus vector and an alphavirus vector.

13. (currently amended): The method of claim 12, wherein the gene delivery vehicle is an alphavirus vector and the alphavirus vector is a Sindbis vector.

14. (currently amended): The method of claim 12, wherein the gene delivery vehicle is an alphavirus vector and said alphavirus vector is selected from the group consisting of Semliki Forest virus, Venezuelan equine encephalitis virus and Ross River virus vector.

15. (currently amended): The method of claim 12, wherein the gene delivery vehicle is an alphavirus vector and said alphavirus vector comprises sequences from two or more alphaviruses.

16. (currently amended): The method of claim 12, wherein the gene delivery vehicle is an alphavirus vector and the alphavirus vector is delivered to antigen presenting cells.

17 . (original): The method of claim 16, wherein the antigen presenting cells are dendritic cells.

18. (canceled)

19. (previously presented): The method of claim 1, wherein an HLA class I-restricted immune response is elicited in the subject.

20. (previously presented): The method of claim 19, wherein an HLA Class II-restricted immune response is elicited in the subject.

21. (currently amended): The method of claim 1, further comprising ~~including, prior or subsequent to the step of administering to target cells,~~ introducing into target cells of the subject a nucleic acid molecule which encodes ~~either~~ at least a protein selected from the group consisting of a Class I MHC protein, ~~or~~ a Class II MHC protein, ~~or combinations thereof, or a protein selected from the group consisting of~~ CD3, ICAM-1, and LFA-3 ~~or analogues thereof~~.

22. (withdrawn - currently amended): The method of claim 1, further comprising the step of administering ~~at least one~~ a second gene delivery vehicle ~~, said second gene delivery vehicle comprising polynucleotides~~ encoding at least one second antigen or an immunomodulatory factor.

23. (withdrawn): The method of claim 22, wherein the second gene delivery vehicle is administered mucosally.

24. (withdrawn): The method of claim 22, wherein the second gene delivery vehicle is administered non-mucosally.

25. (withdrawn - currently amended): The method of claim 1, further comprising the step of administering one or more polypeptides to the subject.

26. (withdrawn): The method of claim 25, wherein the polypeptides comprise at least one second antigen.

27. (withdrawn): The method of claim 25, wherein the polypeptides comprise an immunomodulatory factor.

28. (withdrawn): The method of claim 25, wherein at least one of the polypeptides is administered mucosally.

29. (previously presented): The method of claim 13, wherein said alphavirus vector is contained in an alphavirus replicon particle.

30. (previously presented): The method of claim 15, wherein said alphavirus vector is contained in an alphavirus replicon particle.

31 to 34. (canceled)

35. (new) The method of claim 1, wherein the detoxified bacterial ADP-ribosylating toxin is selected from the group consisting of: a cholera toxin, a pertussis toxin, and an *E. coli* heat-labile toxin.

36. (new) The method of claim 35, wherein the detoxified bacterial ADP-ribosylating toxin is an *E. coli* heat-labile toxin and the *E. coli* heat-labile toxin is LT-K63.

37. (new) The method of claim 35, wherein the detoxified bacterial ADP-ribosylating toxin is an *E. coli* heat-labile toxin and the *E. coli* heat-labile toxin is LT-R72.

38. (new) The method of claim 35, wherein the detoxified bacterial ADP-ribosylating toxin is a cholera toxin and the cholera toxin is CT-S109.

39. (new) The method of claim 35, wherein the detoxified bacterial ADP-ribosylating toxin is a pertussis toxin and the pertussis toxin is PT-K9/G129.

40. (new) The method of claim 1, wherein the at least one antigen is derived from an influenza virus.

41. (new) The method of claim 1, wherein the composition further comprises CpG.

42. (new) The method of claim 1, wherein the gene delivery vehicle is administered according to a multiple dose schedule.